ORDER NO. ARD81060054C8-08

Service Manual

Microcassette

RN-Z03

(Silver)

AC/Battery Microcassette Recorder
with Fast Playback Function

This is the Service Manual for the following areas.
[D] ····· For all European areas. (Only for commodities of non-included AC Adaptor type)
[E] ····· For all European areas. (Only for commodities of included AC Adaptor type)
[N] ····· For Asia, Latin America, Middle East and Africa areas.
[A] ····· For Australia.

RN-Z06 MECHANISM SERIES

Specifications

Power requirement:
- [E] ····· AC; with included AC adaptor RP-31
  Battery; 3V (two R6 size dry batteries)
- [D] ····· AC; with optional AC adaptor RP-31
  Battery; 3V (two R6 size dry batteries)
- [N] ····· AC; with optional AC adaptor RP-34
  Battery; 3V (two UM-3 size dry batteries)
- [A] ····· Battery; 3V (two UM-3 size dry batteries)

Motor: Electrical governor motor
Power output: 350mW ··· RMS (max)
Frequency range: 200—6,000Hz
Tape speed: 1.2cm/s, 2.4cm/s
Program time: 2 hours with RT-60MC cassette tape (at 1.2cm/s)
1 hour with RT-60MC cassette tape (at 2.4cm/s)

Fast forward and rewind time: Approx. 120 seconds with RT-60MC microcassette tape
Track system: 2-track monaural recording and playback
Inputs: MIC; sensitivity 0.25mV/applicable microphone impedance 200Ω—600Ω
DC in; 3V
Output: Monitor; 8Ω
Speaker: 4.0cm PM dynamic speaker
Dimensions: 60.5mm(W)×127mm(H)×22mm(D)
Weight: 205g without batteries

Specifications are subject to change without notice.

National/Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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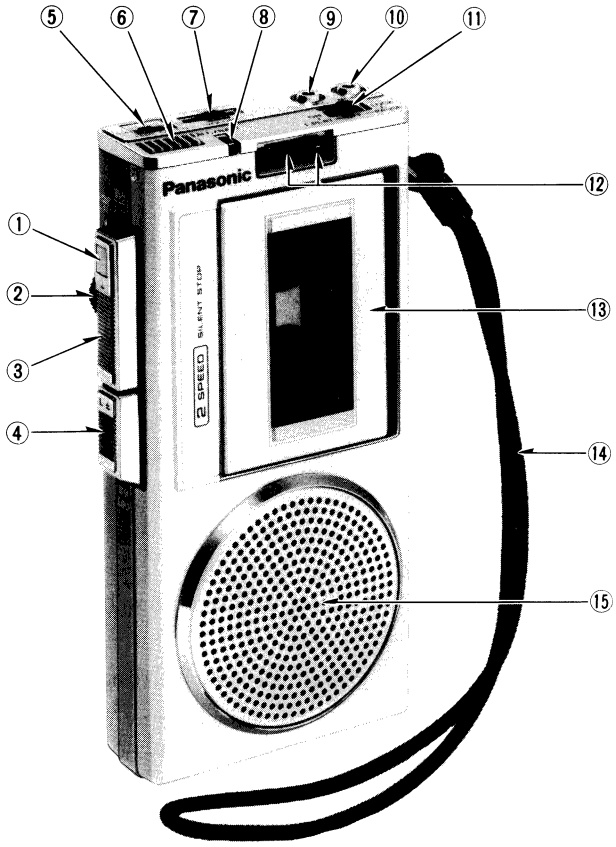
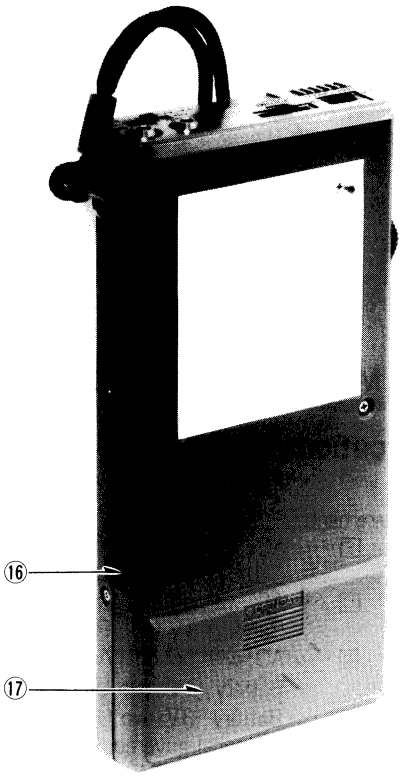
LOCATION OF CONTROLS AND COMPONENTS





① Record button
② Cue/fast forward · review/rewind switch
③ Playback button
④ Eject/stop button
⑤ Tape-speed selector
⑥ Built-in microphone
⑦ Volume control
⑧ Recording-indicator/battery-check lamp
⑨ Microphone jack
⑩ Monitor jack
⑪ Pause/fast playback switch
⑫ Tape counter and reset button
⑬ Cassette compartment cover
⑭ Handstrap
⑮ Built-in speaker
⑯ DC IN jack
⑰ Battery cover

DISASSEMBLY INSTRUCTIONS

Notes:

1. Because this unit is very small, and therefore the screws are also especially smail, be careful not to lose any parts during disassembly.
2. Be very careful, when replacing parts or checking, not to damage the lead wiring, because it is much thiner than lead wiring used in other sets.

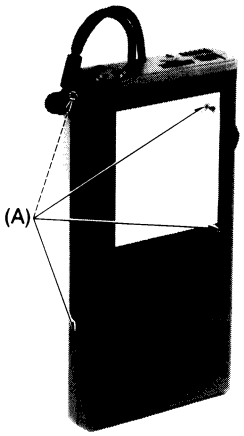


Fig. 1

Fig. 2

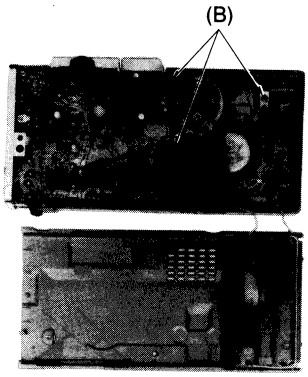


Fig. 3

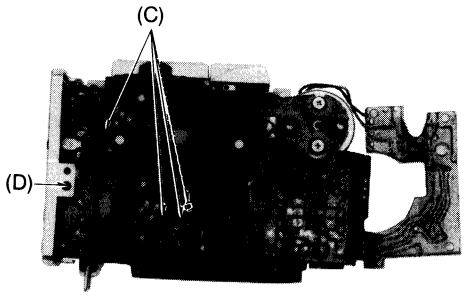


Fig. 4

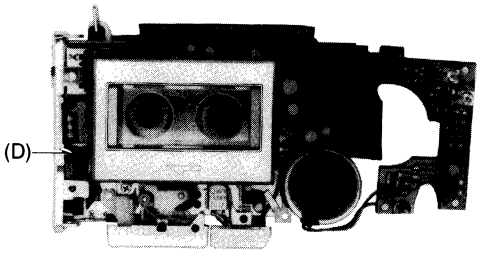


Fig. 5

Procedure	To remove ——.	Remove ——.	Shown in fig. ——.
1	Bottom case assembly	• 5 screws ····· (A)	1, 2
2	Mechanism unit and circuit board	• 3 red screws ····· (B)	3
3	Circuit board	• 4 screws ····· (C)	4
4	Front panel assembly	• 2 black screws ····· (D)	4, 5

Assembly notes:

1. When assembling the mechanism, be sure to clean the brush holder assembly (E5) if necessary with soft cloth moistened with alcohol (shown in fig. 2).
2. When installing the printed circuit board on the mechanism unit, note the following:
   A. Check to be sure that the boss of record/playback selector lever (M74) and record/playback select switch (S1) are in the correct position, as shown in fig. 2.
   B. Check to be sure that the boss of switch lever (M36) and playback switch (S5) are in the correct position, as shown in fig. 2.
   C. Check to be sure that the bosses of the fast wind plate assembly (M52) and fast wind switch (S4) are in the correct position, as shown in fig. 2.
3. Combination switch (S6) mounting.
   A. Unsolder the combination switch (S6) wires at positions ⓐ and ⓑ on the circuit board, as shown in fig. 1.
   B. As shown in fig. 2, set the combination switch (S6) to the takeup reel table assembly (M30), and secure it to the lower base assembly with screw ⓒ (E10).
   C. After mounting the main circuit board on the mechanism unit, resolder the combination switch (S6) wires at the original positions ⓐ and ⓑ. (shown in fig. 1)

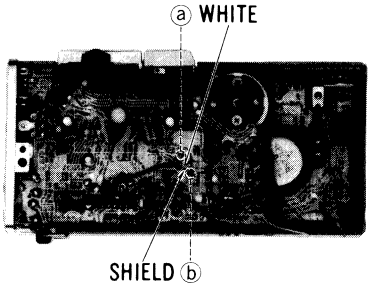


Fig. 1

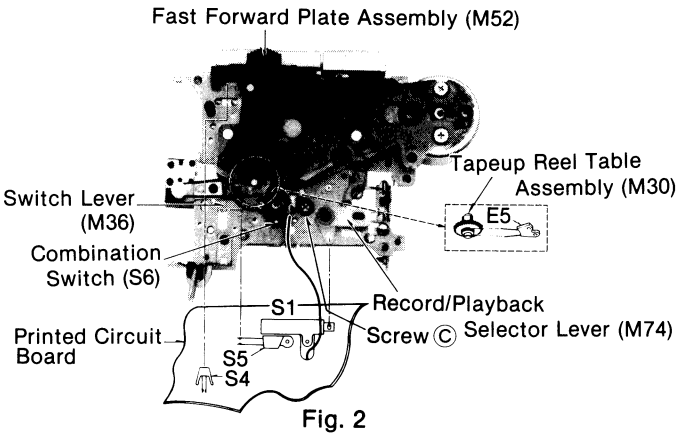


Fig. 2

CHIP PARTS REPAIR PROCEDURE

(transistor, diode, resistor and capacitor, etc.)

A. Removal

1. Remove the solder from both ends of a chip using the solder sucker (RP8062).
2. While the soldering iron is attached to both ends of the chip, as illustrated fig. 1, remove the chip by turning with tweezers.
   * Make sure that the unit is turned OFF when checking the resistance and polarity of a chip. If technician cannot check individual parts then we won't be able to service unit, and we might have to change complate foil board.

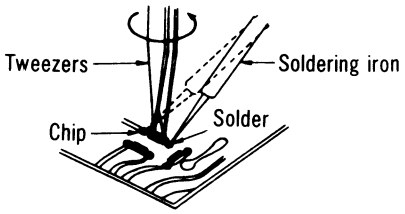


Fig. 1

B. Mounting

Place solder on the foil chip mounting, and solder the chip while applying the soldering iron in the direction of the arrow, as shown in the diagram (fig. 2).

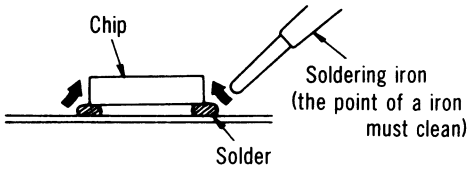


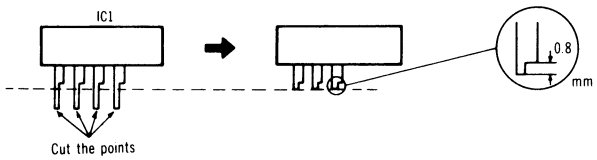
Fig. 2

C. Precautions in mounting the chip

1. Do not heat the chip beyond 3 seconds.
2. Do not rub the electrode.
3. Use tweezers to prevent any damage to the surface.
4. It is recommended that a pencil-type soldering iron be used.
5. Maintain temperature control under 260°C (500°F) when soldering.
   * Chip resistance (of not more than 100Ω) may vary greatly with the direction of mounting; therefore, mount the white side on the pattern side.
6. Do not re-use the tantalum capacitors or ceramic capacitors after removal (use new components).
7. Do not subject the components (chips) to excessive stress.

D. Precautions in mounting the IC

When replacing the IC1 (M51503L), use the new IC after cutting their pins, as shown in the diagram below.



TECHNICAL EXPLANATION

Auto-stop operation

When the takeup reel table stops rotating at the end of tape, this function, 4 to 7 seconds later, automatically cuts off power supply, thereby eliminating any waste of power consumption.

A combination switch (S6) is used for detection of the takeup reel table rotation, and consists of the takeup reel table assembly (M30) and the brush holder assembly (E5).

(See the following diagram.)

• When the takeup reel table rotates

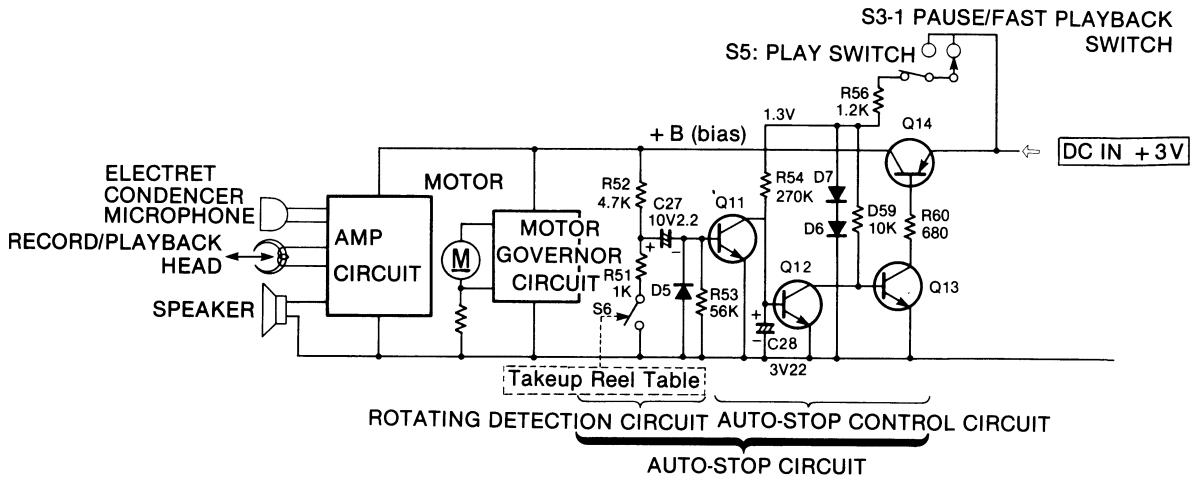
S6 repeats ON/OFF. → C27 repeats charging/discharging. → Q11 repeats ON/OFF. → Base potential of Q12 is Ⓛ, keeping Q12 in the OFF condition. → Base potential of Q13 is Ⓗ, keeping Q13 in the ON condition. → Base potential of Q14 is Ⓛ, keeping Q14 in the ON condition. ⇨ Power supply continues to the motor and Amp.

Notes: Ⓛ: Low potential. Ⓗ: High potential.

• When the takeup reel table stops

S6 becomes either ON or OFF. → Base potential of Q11 becomes Ⓛ. → Q11 becomes OFF; collector potential becomes Ⓗ. → Q12 becomes ON; collector potential becomes Ⓛ. → Q13 becomes OFF; collector potential becomes Ⓗ. → Q14 becomes OFF. ⇨ Power supply to the motor and Amp is cut off.

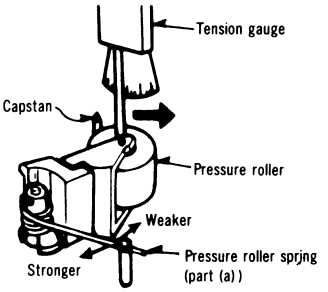
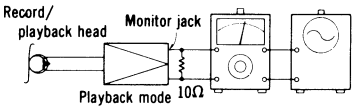
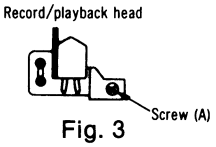
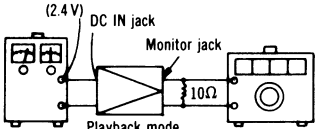
Notes: Ⓛ: Low potential. Ⓗ: High potential.



MEASUREMENT AND ADJUSTMENT METHODS

NOTES: Keep good condition, set switch button and control in the following positions, unless otherwise specified.

- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature: 20±5°C (68±9°F).
- Pause/fast playback switch: OFF.
- Volume control: Maximum.

ITEM	MEASUREMENT & ADJUSTMENT
Ⓐ Pressure of pressure roller Condition: * Playback mode Equipment: * Tension gauge	1. Prepare unit for playback. 2. Connect the tension gauge to the pressure roller lever, and pull it in the direction of the arrow, as shown in fig. 1. 3. Measure the tension at the moment when the pressure roller moves away from the capstan. **Standard pressure: 185±25 g** 4. If the pressure is out of tolerance, bend the pressure roller lever spring (part (a)) in either direction shown by the arrow until the correct pressure is attained.  **Fig. 1**
Ⓑ Head azimuth adjustment Condition: * Playback mode Equipment: * VTVM * Oscilloscope * Test tape (azimuth) ··· QZZMWC * Resistor (10Ω)	1. Test equipment connection is shown in fig. 2. 2. Playback azimuth tape (QZZMWC). 3. Adjust record/playback head angle adjustment screw (A) in fig. 3 so that output level becomes maximum. 4. After adjustment lock head adjustment screw with lacquer.  **Fig. 2**  **Fig. 3**
Ⓒ Check after motor replacement Condition: * Playback mode	1. After replacing the motor, playback the test tape (QZZMWC) and listen to the reproduced sound. If the sound vibrates or fluctuates, replase the resistor of the motor circuit according to the following procedure. 2. Remove selectable resistor R35 from the printed circuit board (mentioned on the page 8) and then measure the resistance value. 3. Select a resistor whose resistance value is next lowest to the measured value from amount those mentioned in the table 1, and then solder it to the circuit. 4. Playback the test tape (QZZMWC) and check that the reproduced sound does not fluctuate. 5. If the sound still fluctuates, replace the resistor with one of lower resistance. **Table 1**
Ⓓ Tape speed accuracy adjustment Condition: * Playback mode Equipment: * Digital electronic counter or frequency counter * DC power supply * Test tape ··· QZZMWC * Resistor (10Ω)	• **Measurement** 1. Test equipment connection is shown in fig. 4. 2. Playback test tape (QZZMWC) and supply playback signal to digital electronic counter. 3. If measured values are not within standard, adjust as follows; **Standard value:** At 2.4cm/sec.: 3000^{+90}_{-90} Hz At 1.2cm/sec.: 1500^{+45}_{-75} Hz • **Tape speed adjustment** 1. Set the tape speed selector (S2) to 2.4cm/s position. 2. Adjust VR2 so that frequency becomes within 3000±90Hz (Shown in fig. 5). 3. Set the tape speed selector (S2) to 1.2cm/s position. 4. Adjust VR1 so that frequency becomes within 1500^{+45}_{-75} Hz (Shown in fig. 5).  **Fig. 4** **VR1:** Tape Speed Adjust VR (for 1.2cm/s) **VR2:** Tape Speed Adjust VR (for 2.4cm/s) **Fig. 5**

RRD18XK820	82Ω
RRD18XK330	33Ω
RRD18XK270	27Ω
RRD18XK220	22Ω
RRD18XK150	15Ω

When measuring the voltage at each parts after removing the mechanism unit, follow the procedure given below

1. Short circuit the collector and emitter of Q14 as shown in fig. 6.
2. Connect a regulated DC power supply to DC IN jack and supply 3 V DC.
3. When measuring the voltage at each part in record mode, completely shift S1 (record/playback switch) in the direction of the arrow as shown in fig. 7.
   * After completion of measurement, be sure to release the connection between the collector and the emitter of Q14.
   * When measuring the terminal voltage of Q6—Q11 and IC1 do not remove the mechanism unit or short circuit the collector to the emitter of Q14.
4. After measurement, disconnect the connection wire from Q14.

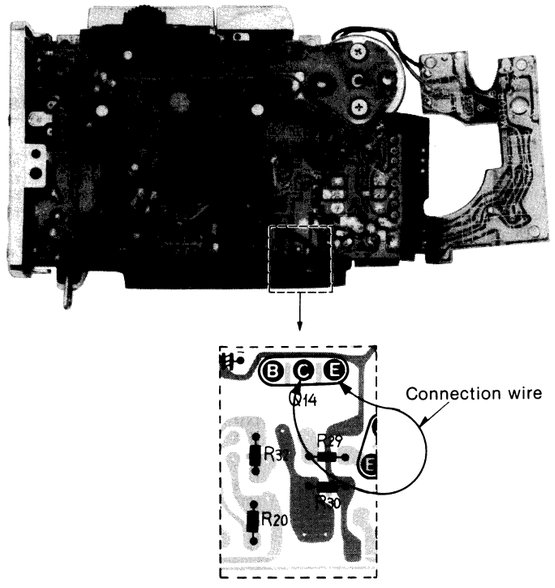


Fig. 6

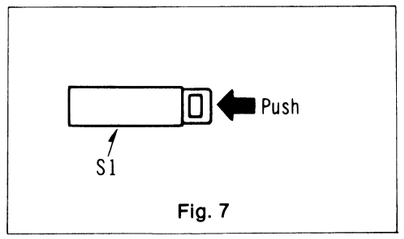
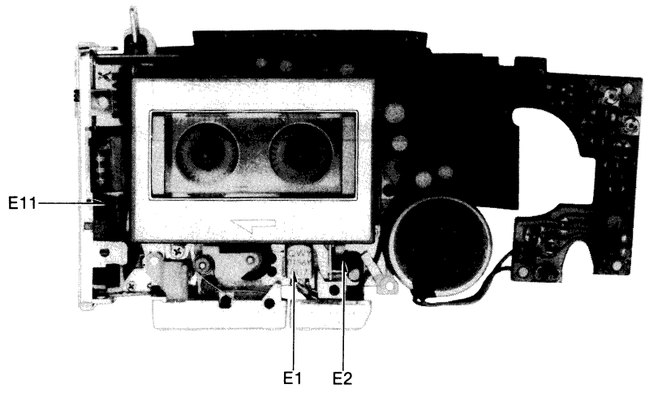
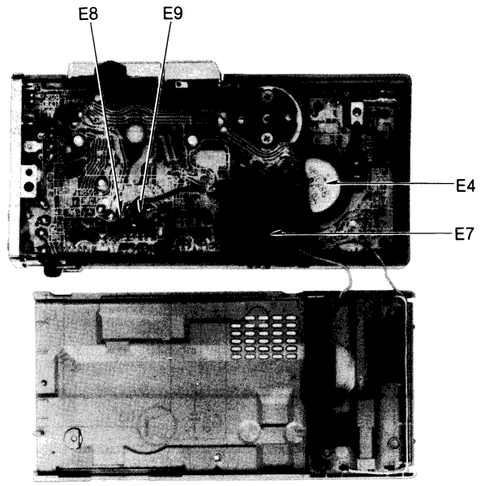
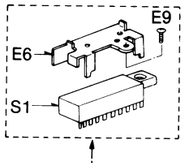


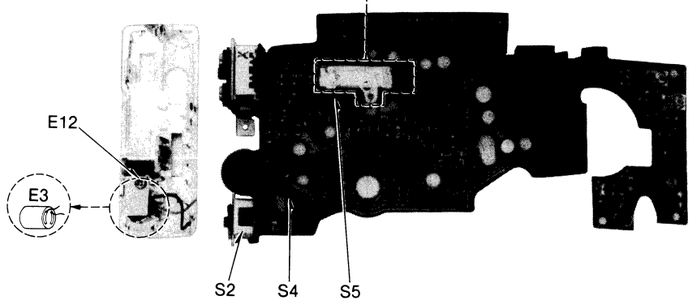
Fig. 7

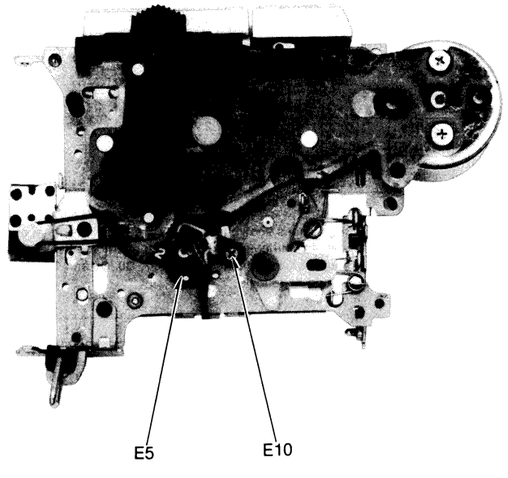
ELECTRICAL PARTS LOCATION







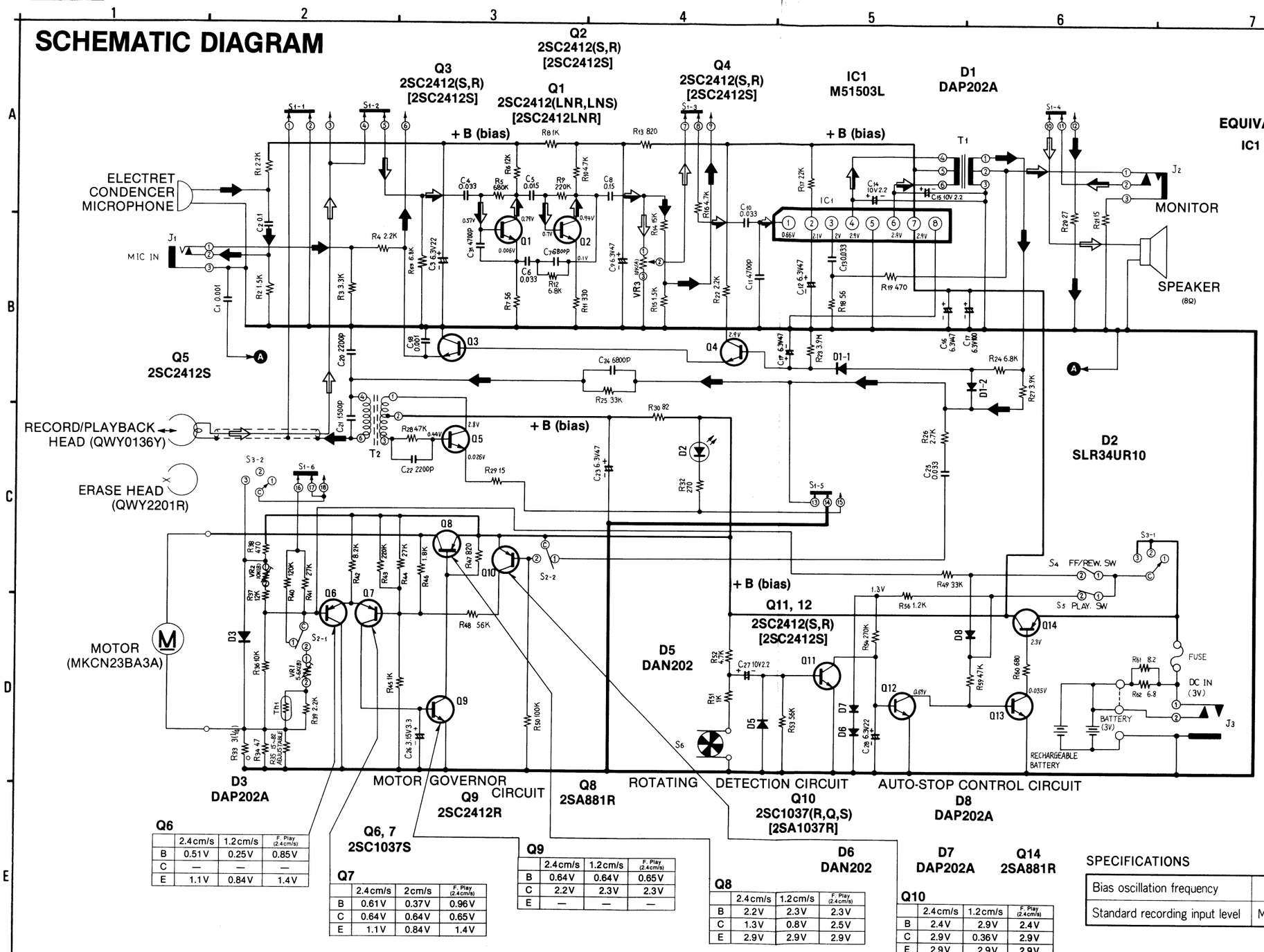




REPLACEMENT PARTS LIST

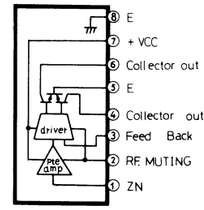
Ref. No.	Part No.	Part Name & Description
	ELECTRICAL PARTS	
E1	QWY0136Y	Record/Playback Head
E2	QWY2201R	Erase Head
E3	WM063Y	Built-in Microphone
E4	EAS4P102SH	Speaker
E5	QES1541	Brush Holder Assembly
E6	QMA3874	Switch Angle
E7	QBH0175	Shelter
E8	XQN16C5FN	Screw ⊕1.6×5
E9	XQN16A16FN	Screw ⊕1.6×1.6
E10	XTNQ16C3F	Screw ⊕1.6×3
E11	XQN14C18FZ	Screw ⊕1.4×1.8
E12	XTN2+6B	Tapping Screw ⊕2×6

SCHEMATIC DIAGRAM



EQUIVALENT CIRCUIT

IC1 M51503L



NOTES: RESISTORS
- ERD ··· Carbon
- RRD ··· Carbon
- ERG ··· Metal-oxide
- ERO ··· Metal-film
- ERX ··· Metal-film
- ERQ ··· Fuse type metallic
- ERC ··· Solid
- ERF ···· Cement

CAPACITORS
- ECG□ ····· Ceramic
- ECK□ ····· Ceramic
- ECC□ ····· Ceramic
- ECF□ ····· Ceramic
- QCU□ ····· Ceramic
- ECQM ····· Polyester film
- ECQE ····· Polyester film
- ECQF ····· Polypropylene
- ECE□ ····· Electrolytic
- ECE□N ··· Non polar electrolytic
- ECQS ····· Polystyrene
- ECS□ ····· Tantalum

Q6

	2.4cm/s	1.2cm/s	F. Play (2.4cm/s)
B	0.51V	0.25V	0.85V
C	—	—	—
E	1.1V	0.84V	1.4V

Q7

	2.4cm/s	2cm/s	F. Play (2.4cm/s)
B	0.61V	0.37V	0.96V
C	0.64V	0.64V	0.65V
E	1.1V	0.84V	1.4V

Q9

	2.4cm/s	1.2cm/s	F. Play (2.4cm/s)
B	0.64V	0.64V	0.65V
C	2.2V	2.3V	2.3V
E	—	—	—

Q8

	2.4cm/s	1.2cm/s	F. Play (2.4cm/s)
B	2.2V	2.3V	2.3V
C	1.3V	0.8V	2.5V
E	2.9V	2.9V	2.9V

Q10

	2.4cm/s	1.2cm/s	F. Play (2.4cm/s)
B	2.4V	2.9V	2.4V
C	2.9V	0.36V	2.9V
E	2.9V	2.9V	2.9V

REPLACEMENT PARTS LIST

Ref. No.	Part No.
RESISTORS	
R1	RRD18XJ222
R2	RRD18XK152
R3	RRD18XK332
R4	RRD18XJ222
R5	RRD18XK684
R6	RRD18XJ123
R7	RRD18XK560
R8	RRD18XJ102
R9	RRD18XJ224
R10	RRD18XK472
R11	RRD18XK331
R12	RRD18XK682
R13	RRD18XK821
R14	RRD18XK153
R15	RRD18XK152
R16	RRD18XK472
R17	RRD18XK223
R18	RRD18XK560
R19	RRD18XJ471
R20	RRD18XK270
R21	RRD18XK150
R22	RRD18XJ222
R23	RRD18XK395
R24	RRD18XK682
R25	RRD18XK333
R26	RRD18XK272
R27	RRD18XK392
R28	RRD18XK473
R29	RRD18XK150
R30	RRD18XK820
R32	RRD18XK271
R33	ERSA39J3R0
R34	RRD18XJ470
R35	RRD18XK150 / RRD18XK220 / RRD18XK270 / RRD18XK330 / RRD18XK820 (Selectable)
R36	RRD18XJ103
R37	RRD18XJ123
R38	RRD18XJ471
R39	RRD18XJ222
R40	RRD18XJ124
R41	RRD18XJ273
R42	RRD18XJ822
R43	RRD18XJ224
R44	RRD18XJ273
R45	RRD18XJ102
R46	RRD18XJ182
R47	RRD18XK821
R48	RRD18XJ563
R49	RRD18XK333
R50	RRD18XK104
R51	RRD18XJ102
R52	RRD18XK472
R53	RRD18XJ563
R54	RRD18XJ274
R56	RRD18XK122
R59	RRD18XJ473
R60	RRD18XK681
R61	ERD10TJ8R2
R62	ERD10TJ6R8
R63	RRD18XK682
VARIABLE RESISTORS	
VR1	QVM42TB562
VR2	QVM42TB103
VR3	EVLABAA00A14
CAPACITORS	
C1	QCUT1H102ZFL
C2	QCUT1E104ZFL
C3	ECEA0JK220
C4	QCUX1E333MRX
C5	QCUT1E153MRL
C6	QCUX1E333MRX
C7	QCUT1H682KRL
C8	QCUX1E154ZFX
C9	ECEA1AS470
C10	QCUX1E333MRX
C11	QCUT1H472MRL
C12	ECEA0JK470
C13	QCUX1E333MRX
C14, 15	ECSF1AM225PR
C16	ECEA0JK470
C17	ECEA0JV101
C18	QCUT1H102ZFL
C19	ECEA0JK470
C20	QCUT1H222MRL
C21	QCUX1H152KUX
C22	QCUT1H222MRL
C23	ECEA0JK470
C24	QCUT1H682KRL
C25	QCUX1E333MRX
C26	ECSF0FM335PR
C27	ECSF10E2R2PR
C28	ECEA0JK220
C31	QCUT1H472MRL
TRANSISTORS	
Q1	2SC2412LNR
Q2, 3, 4, 5	2SC2412S
Q6, 7	2SA1037R
Q8	2SA881R
Q9	2SC2412R
Q10	2SA1037R
Q11, 12, 13	2SC2412S
Q14	2SA881R
DIODES	
D1	DAP202A
D2	SLR34UR10
D3	DAP202A
D5, 6	DAN202
D7, 8	DAP202A
INTEGRATED CIRCUIT	
IC1	M51503L
THERMISTOR	
TH1	QRTD0F802U

SPECIFICATIONS

Bias oscillation frequency	55±15kHz
Standard recording input level	MIC: −70±4dB

NOTES:
- S1-1—S1-5 .....Record/playback select switch (shown in playback position).
- S2-1—S2-3 .....Tape speed select switch (shown in 2.4cm/s position).
- S3.....Pause/fast playback switch (shown in off position).
- S4.....Fast forward/rewind switch (shown in off position).
- S5.....Playback switch (shown in on position).
- S6.....Rotary detection switch.
- VR1 .....Tape speed adjustment VR (for 1.2cm/s adjustment).
- VR2 .....Tape speed adjustment VR (for 2.4cm/s adjustment).
- VR3 .....Volume control VR.
- Resistance are in ohms (Ω), 1/8 watt unless specified otherwise. K = 1,000Ω, M = 1,000KΩ.
- Capacity are micro farads (μF) unless specified otherwise. P = Pico-farads.

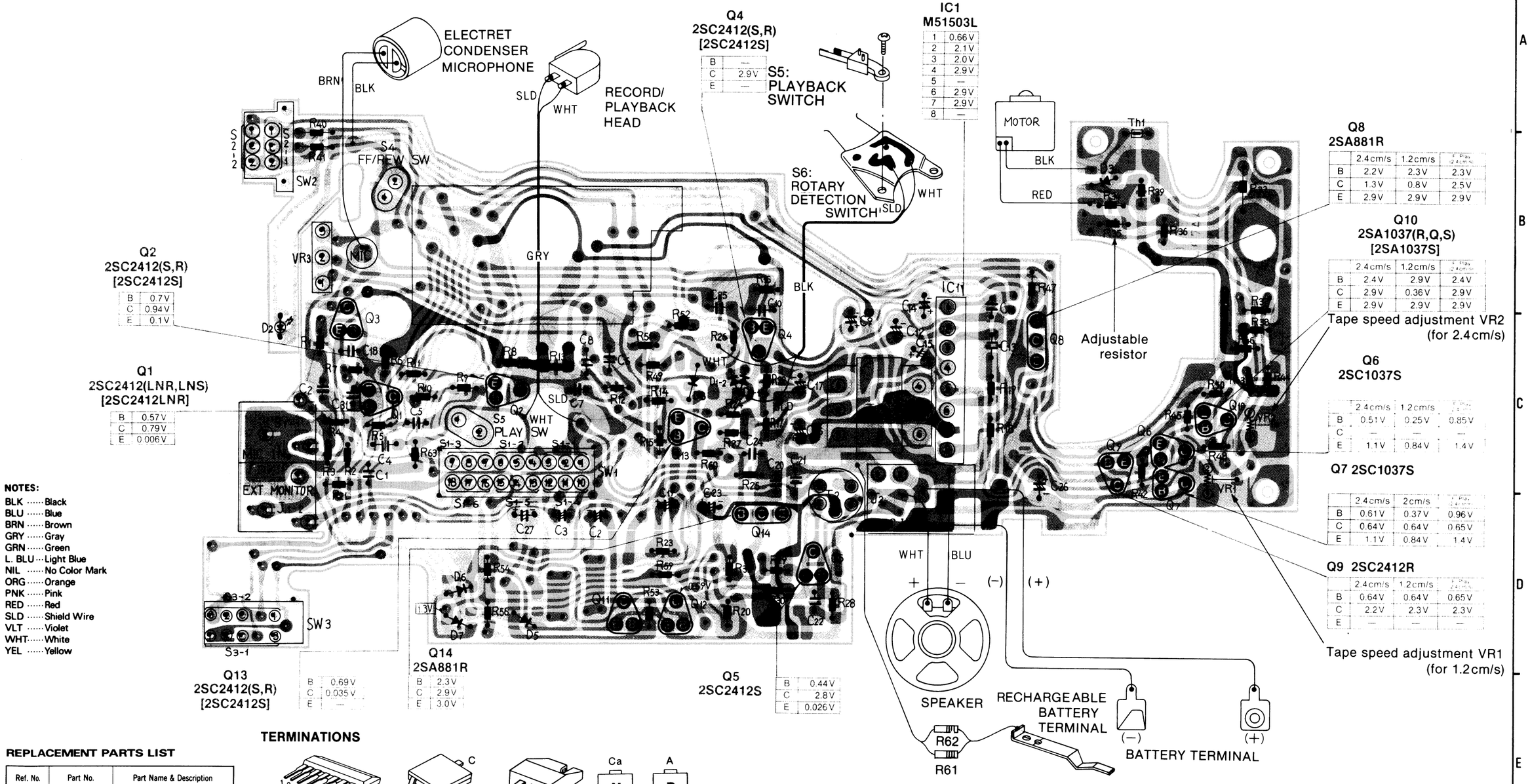
- All voltage values shown in circuitry are under no signal condition and record mode with volume control at minimum position unless specifid otherwise.
- The voltage values indicates of Q6, Q7, Q8, Q9 and Q10 are measured during each 3 mode as follows;
  e.g. Q6

	B	C	E	
2.4cm/s	0.51V	—	1.1V	←2.4cm/s mode
1.2cm/s	0.25V	—	0.84V	←1.2cm/s mode
F • Play	0.85V	—	1.4V	←Fast playback mode

For measurement, use TVTM.

- (⇨) this arrow indicates the flow of the playback signal.
- (➡) this arrow indicates the flow of the recording signal.
- (⇒) this arrow indicates the flow of the playback and recording signal in combination.
- Described in the schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type of number is used for supply parts number and production parts number when they are identical.
  e.g. Q1
  2SC2412(LNR,LNS)——Production parts number
  [2SC2412LNR]——Supply parts number
- **The supply parts number is described alone in the replacement parts list.**

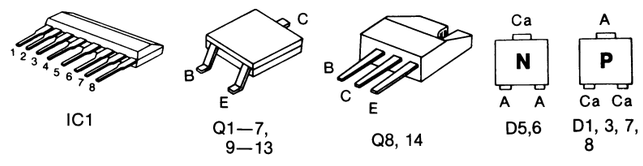
CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



NOTES:

BLK ..... Black
BLU ..... Blue
BRN ..... Brown
GRY ..... Gray
GRN ..... Green
L. BLU ... Light Blue
NIL ..... No Color Mark
ORG ..... Orange
PNK ..... Pink
RED ..... Red
SLD ..... Shield Wire
VLT ..... Violet
WHT ..... White
YEL ..... Yellow

TERMINATIONS



REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
	TRANSFORMERS	
T1	QLT2D34XS	Output Transformer
T2	QLB0195K	Bias Oscillation Coil
	SWITCHES	
S1	QSS6209T	Slide Switch (Record/Playback Select)
S2	QSS2222	Slide Switch (Tape Speed Select)
S3	QSS2302	Slide Switch (Pause/Fast Playback Select)
S4	QSB0250	Leaf Switch (Fast Forward/Rewind)
S5	QSB0249	Leaf Switch (Playback Switch)
S6	Refer to E5 & M30	Combination Switch (Rotary Detector)
	JACKS	
J1	QJA0447	MIC/MONITOR Jack
J2	QJA0169	DC IN Jack

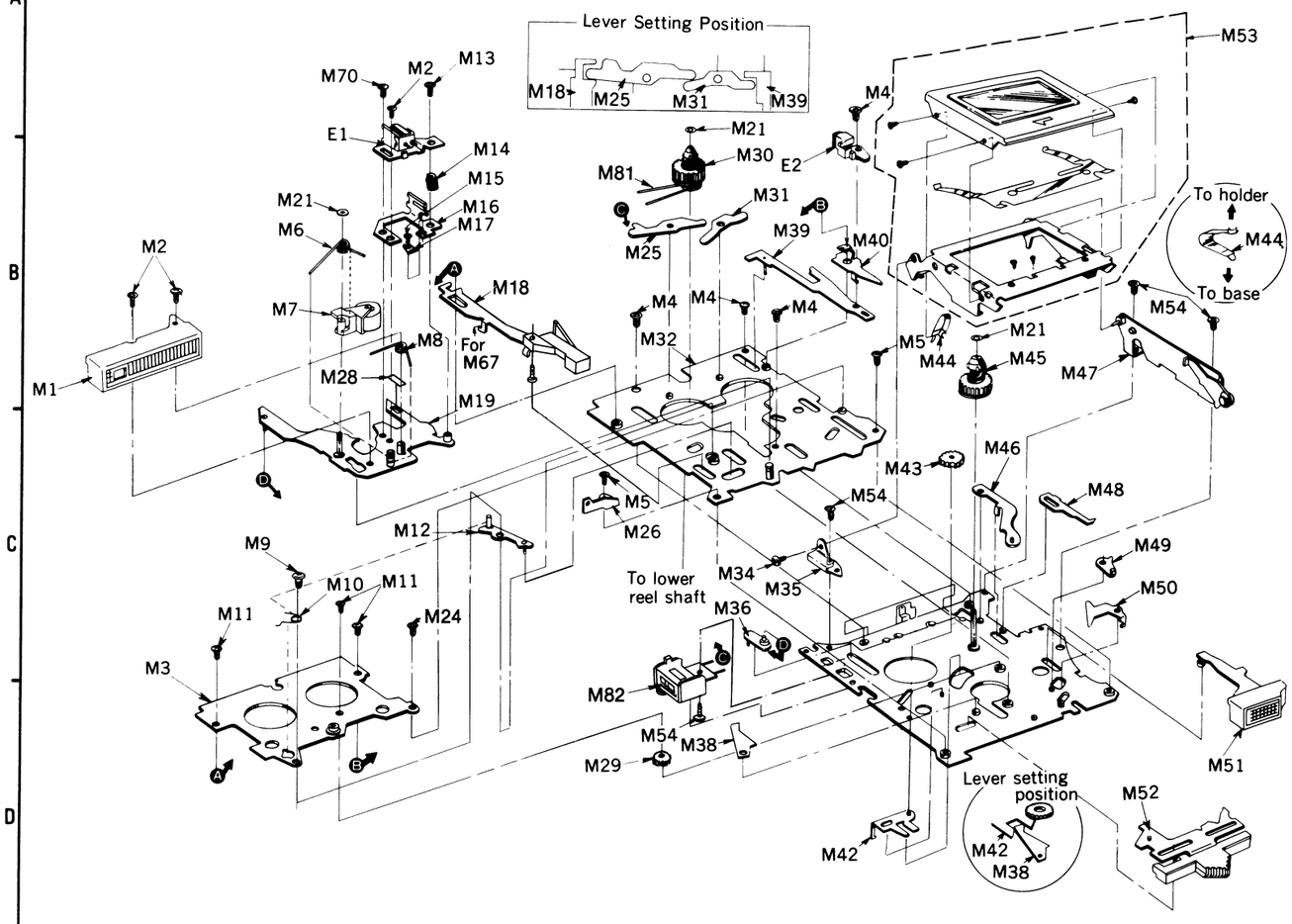
NOTES:
- The circuit shown in ▬ on the conductor is + B (bias) circuit.
- The circuit shown in ▬ on the conductor indicates printed circuit on the side of the circuit board, which is put the mechanism unit (front side).
- The circuit shown in ▬ on the conductor indicates printed circuit on the back side of the printed circuit board.
- Values indicated in ▭ are DC voltage between the ground and electrical parts.
- The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
- All voltage values shown in circuitry are under no signal condition and record mode with volume control at minimum position unless specified otherwise.
- The voltage values indicates of Q6, Q7, Q8 and Q10 are measured during each 3 mode as follows;

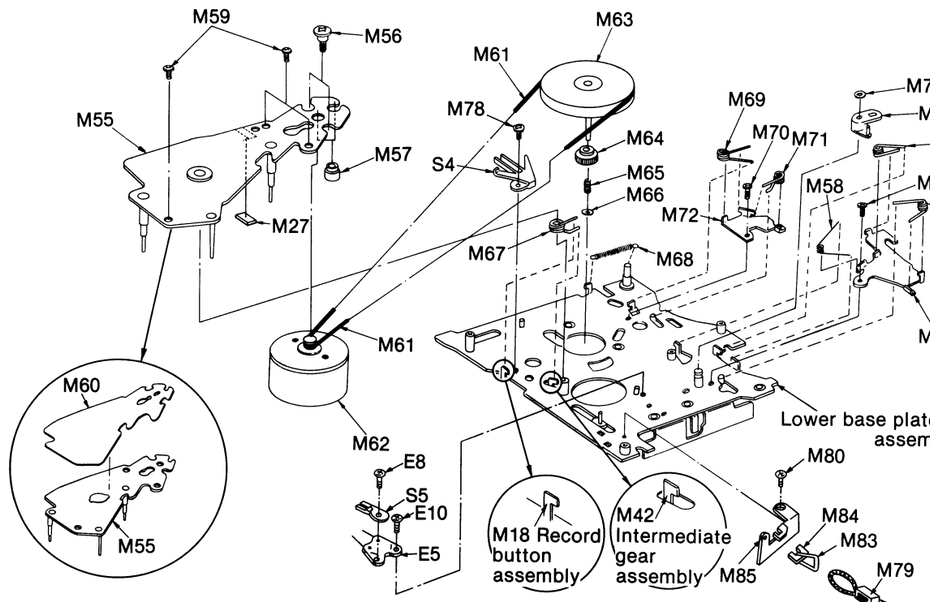
e.g. Q6

	B	C	E	
2.4cm/s	0.51V	—	1.1V	←2.4cm/s mode
1.2cm/s	0.25V	—	0.84V	←1.2cm/s mode
F. Play	0.85V	—	1.4V	←Fast playback mode

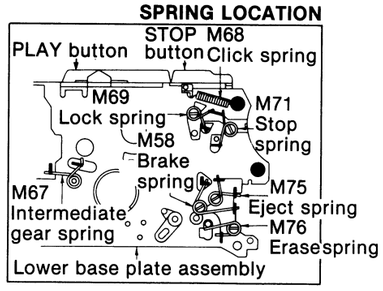
- Described in the circuit board diagram are two types of numbers; the supply parts number and production parts number for transistors. One types of number is used for supply parts number and production parts number when they are identical.
  e.g. Q1
  2SC2412(LNR,LNS) ← Production parts number
  [2SC2412LNR] ← Supply parts number
- **The supply parts number is described alone in the replacement parts list.**

MECHANICAL PARTS LOCATION





SPRING LOCATION



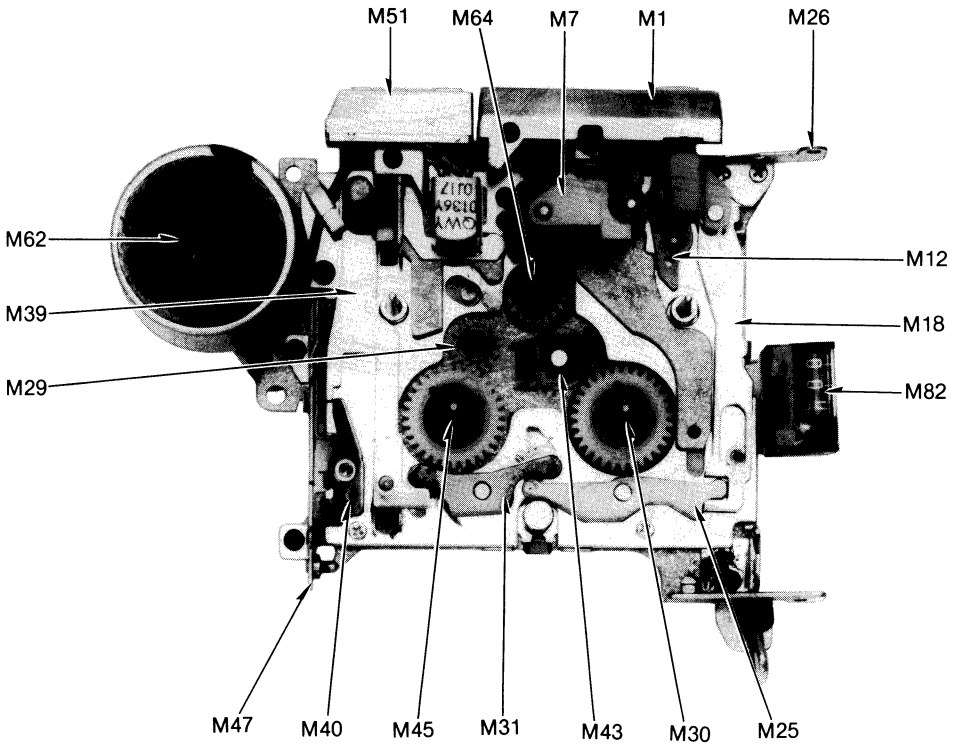
REPLACEMENT PARTS LIST

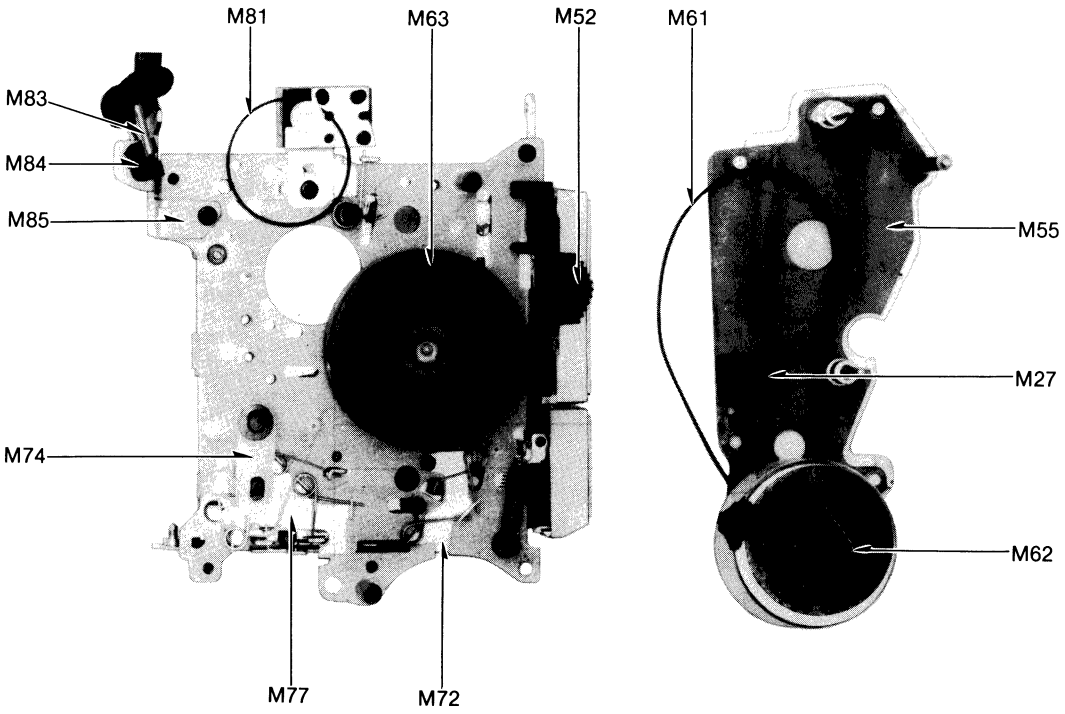
Ref. No.	Part No.	Part Name & Description
	MECHANICAL PARTS	
M1	QGO1782	Playback Button Assembly
M2	XQN16A2FZ	Screw ⊕1.6×2
M3	QXK2255	Reflection Plate Assembly
M4	XQN16C25FZ	Screw ⊕1.6×2.5
M5	XQNQ16A25F	〃
M6	QBN1632	Pressure Roller Spring
M7	QXL1380	Pressure Roller Arm Assembly
M8	QBN1628	Playback Spring
M9	QHQ1254	Step Screw
M10	QBN1738	Record Lock Spring
M11	XQS14A14FC	Screw ⊕1.4×1.4
M12	QXL1379	Record Lock Lever Assembly
M13	QHQ1281	Head Adjustment Screw
M14	QBC1331	Head Spring
M15	XQN14C14FZ	Clamper Screw
M16	QMG0063	Tape Guide
M17	QTD1268	Lead Clamper
M18	QXR0690	Record Button Assembly
M19	QXK2257	Head Base Plate Assembly
M21	QBW2081	Poly Washer
M24	XQN16A16FN	Screw ⊕1.6×1.6
M25	QML3397	Reversing Lever-A
M26	QMA3888	Panel Hold Angle
M27	QBJ1500	Belt Spacer
M28	QTW1255	Spacer
M29	QDG1156	Rewind Gear
M30	QXD0127	Takeup Reel Table Assembly
M31	QML3398	Reversing Lever-B
M32	QXK2252	Upper Base Plate Assembly
M34	QHQ1308	Step Screw
M35	QMA3886	Holder Angle
M36	QMF2143	Switch Lever
M38	QMF2006	Rewind Base Plate
M39	QXR0746	Erase Rod Assembly
M40	QML3400	Record Detection Lever
M42	QXH0295	Intermediate Gear Plate Assembly
M43	QDG1237	Intermediate Gear
M44	QBP1878	Plate Spring-B
M45	QXD0093	Supply Reel Table Assembly
M46	QXL1237	Brake Arm Assembly
M47	QXA1099	Eject Angle Assembly
M48	QMF1998	Eject Plate
M49	QXL1236	Lock Lever Assembly
M50	QMF2000	Check Plate
M51	QXR0679	Stop Rod Assembly
M52	QXH0333	Fast Wind Plate Assembly
M53	QXA1144	Holder Assembly
M54	XTNQ16C2FFZ	Screw ⊕1.6×2
M55	QXK2254	Motor Holding Plate Assembly
M56	QHQ1298	Step Screw
M57	QBG1673	Motor Cushion
M58	QBN1633	Brake Spring
M59	XQS16A3FZ	Screw ⊕1.6×3
M60	QTW1193	Motor Insulation Plate
M61	QDB0272	Flywheel Belt
M62	MKCN23BA3A	DC Motor
M63	QXF0162	Flywheel Assembly
M64	QDG1204	Flywheel Gear
M65	QBC1354	Flywheel Spring
M66	QBW2060	Poly Washer
M67	QBN1737	Intermediate Gear Spring
M68	QBT1855	Click Spring
M69	QBN1635	Lock Spring
M70	XQN16A14FZ	Screw ⊕1.6×1.4
M71	QBN1631	Stop Spring
M72	QMF2100	Spring Hook Plate-B
M73	QBW2007	Snap Washer
M74	QML3609	Switch Lever
M75	QBN1627	Eject Spring
M76	QBN1736	Erase Spring
M77	QMF2099	Spring Hook Plate-A
M78	XQN16C28FN	Screw ⊕1.6×2.8
M79	DE QYH0102	Hand Strap Assembly
	✱For all European areas.	
	NA QYH0102K	〃
	✱For Asia, Latin America, Middle East, Africa areas and Australia.	
M80	XTNQ16+22FFZ	Screw ⊕1.6×2.2
M81	QDB0293	Counter Belt
M82	QXC0066	Tape Counter Assembly
M83	QZC0013	Hand Strap Ring
M84	DE QKJ0430	Holder Plastic
	✱For all European areas.	
	NA QKJ0430K	〃
	✱For Asia, Latin America, Middle East, Africa areas and Australia.	
M85	QMA4096	Hand Strap Holder Assembly

SPECIFICATIONS

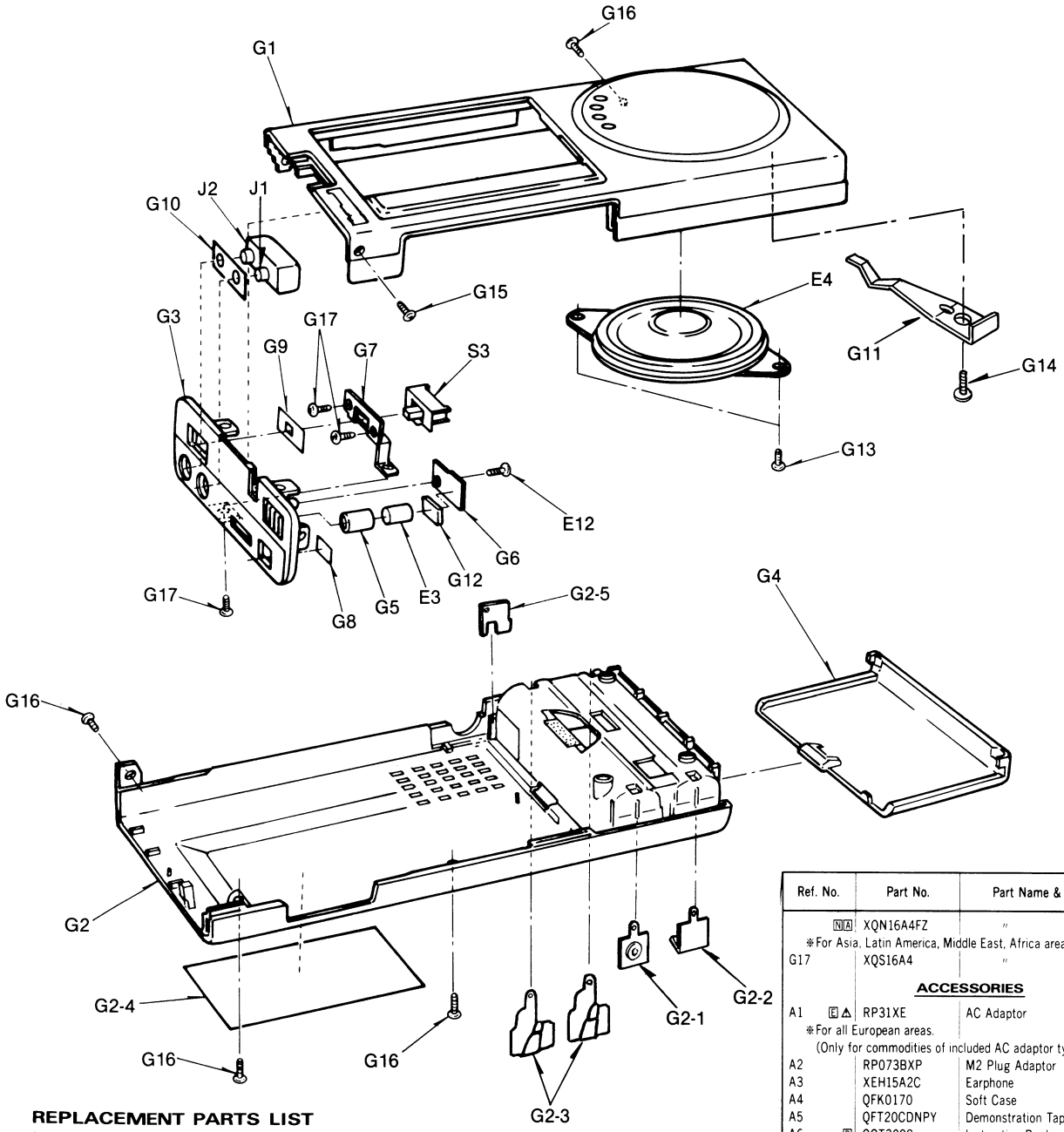
ITEM	VALUE	REMARKS
Won and flutter (JIS)	RMS: At 2.4cm/s; Less than 0.55% At 1.2cm/s; Less than 1.1%	Use 3kHz test tape (QZZMWC)

MECHANICAL PARTS LOCATION





CABINET PARTS LOCATION



REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part No.	Part Name & Description
		CABINET PARTS
G1	DE	QYM0700	Main Case Assembly
	※For all European areas.	
	NA	QYM0719	〃
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
G2	DE	QYM0721	Bottom Case Assembly
	※For all European areas.	
	NA	QYM0720	〃
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
G2-1		QJB0109	Battery Terminal-A
G2-2		QJB0142	Battery Terminal-C
G2-3		QJB0147	Battery Terminal-D
G2-4	DE	QGS2920S	Main Name Plate
	※For all European areas.	
	NA	QGS2920	Main Name Plate
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
G2-5		QMF2113	Main Case Holding Plate
G3		QYP1043	Jack Board Assembly
G4	DE	QKF4035H	Battery Cover
	※For all European areas.	
	NA	QKF4035K	〃
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
G5		QBG1695	Microphone Rubber
G6		QMF2167	Microphone Holding Angle
G7		QMA4097	Switch Angle (for S3)
G8		QQC1669	Switch Shelter (for S2)
G9		QQC1735	Switch Shelter (for S3)
G10		QKJ0455	Jack Cover
G11		QJB0141	Rechargeable Terminal
G12		QBG1699	Cushion
G13		XQN16A35FZ	Screw ⊕1.6×3.5
G14		XQN16C4FR	Screw ⊕1.6×4
G15		XQN16A4FC	〃
G16	DE	XQN16A4FC	〃
	※For all European areas.	
	NA	XQN16A4FZ	〃
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
G17		XQS16A4	〃
		ACCESSORIES
A1	E⚠	RP31XE	AC Adaptor
	※For all European areas.	
	(Only for commodities of included AC adaptor type)	
A2		RP073BXP	M2 Plug Adaptor
A3		XEH15A2C	Earphone
A4		QFK0170	Soft Case
A5		QFT20CDNPY	Demonstration Tape
A6	D	QQT3098	Instruction Book
	※For all European areas.	
	(Only for commodities of non-included AC Adaptor type)	
	E	QQT3079	〃
	※For all European areas.	
	(Only for commodities of included AC Adaptor type)	
	NA	QQT3076	〃
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
		PACKINGS
P1	D	QPN4217	Inside Carton
	※For all European areas.	
	(Only for commodities of non-included AC Adaptor type)	
	E	QPK1126	Inside Carton Assembly
	※For all European areas.	
	(Only for commodities of included AC Adaptor type)	
	NA	QPN4206	〃
	※For Asia, Latin America, Middle East, Africa areas and Australia.	
P2		XZB11X19A02	Poly Bag (for UNIT)
P3	DNA	QPA0630	Cushion
	※For all European areas.	
	(Only for commodities of non-included AC Adaptor type)	
	※For Asia, Latin America, Middle East, Africa areas and Australia.	

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